

Students' engagement in school, academic aspirations, and sex

Feliciano H. Veiga

*Universidade de Lisboa, Instituto
de Educação (PORTUGAL)*

V. Robu

*Petre Andrei University of Iasi
(ROMANIA)*

H. Moura

*Ministério da Educação e Ciência
(PORTUGAL)*

F. Goulão

Universidade Aberta (PORTUGAL)

D. Galvão

*Universidade de Lisboa, Instituto
de Educação (PORTUGAL)*

Abstract

This study examined students' engagement in school, attending to academic aspirations and sex differences, as part of a larger research project on the differentiation and promotion of students' engagement in school. Specifically, the aims of this study were as follows: to estimate the associations between academic aspiration (number of years that students intend to study) and school engagement; to analyze if sex has any effect on the associations between academic aspirations and school engagement; to understand if academic aspirations have a significant contribution to the explanation of the variance in school engagement dimensions; to examine if sex is a predictor of school engagement dimensions. The sample included

685 students attending 6th, 7th, 9th and 10th grades ($M_{age} = 13.82$, $SD = 1.92$). The current paper analyses only the responses to a scale designed to measure engagement in school, as well as the answers to an open-ended question used to capture the level of students' academic aspirations. Data showed positive correlations between the level of students' engagement in school and the level of academic aspirations. Further research on students' assigned importance to engage in school may enrich this research domain. Considering the lack of studies on these concepts, results are framed within the context of social-cognitive perspective of adolescence development, emphasizing the importance of activating and maintaining academic aspirations among secondary school students.

Keywords: students engagement in school, academic aspirations, sex.

Introduction

Recent research highlights the relevance of students' engagement in school (SES) concept, and suggests the necessity of studying its relation with academic aspirations (Reeve & Tseng, 2011; Veiga et al., 2012). This study examines the relationship between students' engagement in school and academic aspirations, attending to sex differences.

1. Students' engagement in school and academic aspirations

Students' Engagement in School (SES) is defined as the experience of centripetal connection of the student to the school in specific dimensions – cognitive, affective, behavioural and personal agency (Veiga, Galvão, Festas, & Taveira, 2012; Veiga, 2013) and has been operationalized so as the extent to which students are committed to school and motivated to learn (Simon-Morton & Chen, 2009). The cognitive dimension refers to the students' personal investment, as well as to learning approaches and self-regulatory strategies (Fredricks, Blumenfeld, & Paris, 2004). The emotional dimension is related to the affective reactions aroused by school, colleagues and teachers, to connection and sense of belonging to school (Veiga et al., 2013), and to the sense of identification with school (Appleton, Christenson, & Furlong, 2008). The behavioural dimension is defined by the actions and practices directed towards school,

encompassing several positive conducts, such as homework completion, attendance to classes and attention during lessons, effort in school tasks and obtaining good grades (Veiga et al., 2013), and also the absence of disruptive conducts regarding school norms (Fredricks et al., 2004; Veiga, 2012). Some authors (Reeve & Tseng, 2011; Veiga et al., 2012) suggest a fourth dimension, personal agency, conceptualized as students' constructive contribution to the course of the instruction they receive.

Overall, there is an agreement concerning its multidimensional nature, and is often presented as a meta-construct, with two to four dimensions (Fredricks et al., 2004) likely to predict numerous outcomes and to be influenced by both contextual and personal variables; however, SES's conceptualization, and also the number of components it encompasses, finds variations in the literature. The interest in this concept significantly derives from the associations found between SES and a number of effects in children and teenagers, namely, positive academic results such as achievement. The lack of engagement appears related to low academic achievement (Henry, Knight, & Thornberry, 2011), conduct problems (Fredricks et al., 2004) and school dropout (Henry et al., 2011). However, the levels of engagement do not appear identical throughout the years of schooling; authors such as Klem and Connell (2004) found a decrease in students' engagement as they progress from elementary school to 7th, 8th and 9th grades, and then to high school. In fact, the changes that occur in this developmental phase increase the risk of emotional and conduct problems, likely to have impact in several aspects, including school; several authors found a decrease in the connection with teachers (Furrer & Skinner, 2003), an increase in substance use (Henry et al., 2011; Li & Lerner, 2011) and mental health issues (Li & Lerner, 2011), and also a decline in classes attendance (Anderson & Havy, 2001) throughout schooling years. However, these declines seem to relate with other variables, specifically, the changes that occur in peer influence, which significantly increases, contrary to family (Li et al., 2011). The engagement trajectory, throughout schooling years, is predictive of many outcomes such as school dropout (Veiga et al., 2013), being seen as an important factor to attend to; more engaged students will present a lower probability of leaving school (Henry et al., 2011) and, consequently, will be more likely to have higher school aspirations. Geckova, Tavel, Van Dijk, Abel and Reijneveld (2010) found that the attitudes toward school appear to be the main condition for the development of educational aspirations. In the study carried out by Gil-Flores et al. (2011), school performance appeared related to higher aspirations; according to this author, the higher the achievement, the greater the likelihood of

a larger investment in school, whether or not with the aim to continue studies or to choose or not a more advantageous or longer academic path. On the other hand, Rothon et al. (2011) believe that school aspirations are also an important predictor of academic achievement and general development.

2. School aspirations and sex

The concept of *School Aspirations* refers to the students' academic desires, that is, the number of years they intend to study and, necessarily, the academic level they wish to reach. It is often overlaid on School Expectations, the students' beliefs about their actual academic achievements, being important to make a distinction, despite the fact that these two constructs may influence one another (Hou & Leung, 2011).

The formation of school aspirations and their impact on behaviour have been addressed by different perspectives; in the context of socio-cognitive theories, it appears related to socialization processes, and it seems to exhibit some consistency throughout life (Elliot, 2009), particularly with regard to sex (Junk & Armstrong, 2010) and prestige level associated with the desired occupation (Hou & Leung, 2011). According to Gottfredson (2002), school aspirations are important aspects in guiding students into either higher education (Pitre, 2006) and career decisions, being influenced by several sociodemographic, personal, and contextual factors, such as age, sex, socioeconomic status (Hellenga, Aber, & Rhodes, 2002); self-esteem, self-efficacy, locus of control (Veiga, Galvão, Festas, & Taveira 2012); and family (Gil-Flores, Padilla-Carmona, & Suárez-Ortega, 2011). The literature suggests that educational and career aspirations are, often, influenced by conditions such as sex (Gil-Flores et al., 2011), and mediated by factors such as socioeconomic status (Hellenga, Aber, & Rhodes, 2002), parental expectations or cultural aspects (Gil-Flores et al., 2011).

Particularly, in what concerns to the variable sex, a number of studies suggests the existence of differentiation between girls and boys in academic and career aspirations. Authors such as Gil-Flores et al. (2011) believe that socialization occurs in a differential perspective, according to sex, constraining aspirations and career choices. These authors studied 11th grade adolescents and found that 53% of the sample expected to complete higher education, with girls showing upper aspirations than boys. Patton and Creed (2007) found that young men aspired to professional occupations, while girls to semi-professional occupations. In their study with Middle

school and high school students, Howard et al. (2011) found different preferences according to sex, with girls preferring careers which require more years of schooling than boys. However, these same authors highlight the contradictions found in the literature, with regard to sex differences in career aspirations; while some studies (Cooper, 2009; Gil-Flores et al., 2011; Rothon, Arephin, Klineberg, Cattell, & Stansfeld, 2011; Veiga, Moura, Sá, & Rodrigues, 2006) show that girls have higher aspirations and are more proficient in achieving their academic goals, compared to boys, others, on the contrary, for example Wahl and Blackhurst (2000), found that girls tend, early, to restrict their potential occupations; in turn, Powers and Wojtkiewicz (2004) found similar results for both girls and boys.

In Portugal, Azevedo (1991) examined students' educational expectations and found that 35% wanted a short academic education (12th grade or equivalent), and the majority (65%) sought a long academic education (higher education). An analysis, by sex, identified a difference in favour of females, both in short academic education (38,3% of the boys and 32% of the girls) and in long academic education desires (61,7% of the boys and 68% of the girls); it was also found a differentiation according to sex in relation to professional expectations. Veiga et al. (2006) studied students from the 7th, 9th and 11th grades, and found that in the entire sample, about half of the students intended to have a degree (48,1%), 47,4% wanted to complete 12th grade, and only 4,6% wished to have the 9th grade; in what concerns to females, the number of students wanting a degree increases (52,5%), and the group who wants the 9th grade decreases (1,9%); whereas in males, the results assume less extreme scores (42,5% and 7,9% respectively). These authors' findings support the importance of sex stereotypes in the determination of young people's educational aspirations, having noticed a differential valuing of long academic education, as well as of higher education access, with greater levels of importance in female students. Mendes (2009) also found, in his study, that girls exhibit higher quality and longer academic education.

3. Method

3.1 Sample

A convenience, non-probability sample of secondary school students was used. The sampling criteria led to the inclusion of students attending grade levels prior to and seen as moments of school transition, according to the Portuguese educational system. The sampling criteria also considered the inclusion of students attending both rural and urban schools in northern, central and southern Portugal and in the Azores archipelago. The sample included 685 Portuguese adolescents, out of which 389 were girls and 296 were boys. The students' mean age was 13.82 (range: 11-19 years; SD = 1.91). At the time of data collection, participants were attending 6th (20.1%), 7th (24.8%), 9th (28.8%) and 10th (26.3%) grade. The majority of the students (82.5%) showed no previous retentions in their school history, while 17.5% of the students presented two or three grade repetitions.

3.2 Measures and procedure

The students' engagement in school and other variables were measured using a standard data collection protocol developed specifically for use in the aforementioned research project.

Students' engagement in school. The Students' Engagement in School: A Four-Dimensional Scale (SES-4DS; Veiga, 2013) was included in the data collection protocol. The SES-4DS was designed to assess four dimensions of students' engagement in school: cognitive (e.g., "When writing my work, I begin by making a plan for drafting the text"; $\alpha = .77$), affective (e.g., "My school is a place where I make friends easily"; $\alpha = .82$), behavioral (e.g., "I am absent from school without a valid reason"; $\alpha = .71$), and agentic (e.g., "During class, I ask questions"; $\alpha = .86$). Students were asked to indicate how much they agreed with the items on a six-point Likert-type scale ranging from 1, completely disagree, to 6, completely agree. The items designed to capture the behavioural dimension were reversely formulated and, therefore, were recoded for data analysis (i.e., lower scores indicate higher levels of engagement). The possible scores in each dimension ranged from 5 to 30. Overall, higher scores

indicate a higher engagement. Psychometric properties of the SES-4DS are reported in Veiga (2013).

Academic aspirations (number of years that students intend to study). Academic aspirations were assessed by the open-ended question “Until what school grade do you intend to study?”. The answers to this question allowed the identification of the number of years of schooling that students pursued.

Procedure. The data were collected in classroom context and all research ethics standards were respected.

4. Results

In order to estimate the associations between the level of academic and the level of school engagement, zero-order correlations (based on Pearson product-moment) were computed (see Table 1).

Table 1 — Zero-order and partial correlations (controlling for sex effects) between school engagement and academic aspirations

SCORES IN SCHOOL ENGAGEMENT	CORRELATION	ACADEMIC ASPIRATIONS
Agency	zero-order	.15 ***
	partial (sex partialled out)	.15 ***
Affective engagement	zero-order	.19 ***
	partial (sex partialled out)	.18 ***
Cognitive engagement	zero-order	.12 **
	partial (sex partialled out)	.11 **
Behavioural engagement	zero-order	.17 ***
	partial (sex partialled out)	.18 **
School engagement – total score	zero-order	.25 ***
	partial (sex partialled out)	.23 ***

Note: N = 685. ** $p < .01$; *** $p < .001$

All correlations were positive and statistically significant ($p < .01$ or $p < .001$). School engagement tended to increase as academic aspirations increased. However, the magnitude of the associations was modest for affective and behavioural engagement. When the variable students sex was partialled out (in order to control

its effect on zero-order associations between academic aspirations and school engagement), the values of partial correlations showed a small variation comparing to zero-order correlations. Thus, sex had no effect on the associations between academic aspirations and school engagement among the students who participated in the study.

A second analysis was carried out, in order to determine if academic aspirations had a significant contribution to the explanation of the variance found in school engagement dimensions. Linear regression analysis (*enter* method) was used. Due to its categorical nature, sex was transformed into a dummy variable (1 = girls, 0 = boys/reference category), as recommended in the literature. Data are summarized in Table 2.

Table 2 — Linear regression analysis with sex and academic aspirations as independent variables and the dimensions of school engagement as dependent variables

DEPENDENT VARIABLES	INDEPENDENT VARIABLES	β	UNIQUE CONTRIBUTION TO THE VARIANCE EXPLANATION
Agency ($R = .20$; $R^2 = .044$)	sex	-.14 ***	2.2 %
	academic aspirations	.14 ***	2.2 %
Affective engagement ($R = .19$; $R^2 = .037$)	sex	-.06/	0.3 %
	academic aspirations	.18 ***	3.4 %
Cognitive engagement ($R = .13$; $R^2 = .019$)	sex	.06////	0.4 %
	academic aspirations	.11 **//	1.3 %
Behavioral engagement ($R = .20$; $R^2 = .043$)	sex	.08 *///	0.6 %
	academic aspirations	.18 ***	3.3 %
School engagement – total score ($R = .23$; $R^2 = .057$)	sex	-.04/	0.2 %
	academic aspirations	.23 ***	5.5 %

Note: $N = 685$. * $p < .05$; ** $p < .01$; *** $p < .001$

Together, sex and academic aspirations accounted for 4.4 % of the variance in agency, 3.7 % of the variance in affective engagement, 1.9 % of the variance in cognitive engagement, 4.3 % of the variance in behavioral engagement, and 5.7 % of variance in school engagement (total score). Sex (1 = girls) was a negative predictor for agency ($\beta = -.14$; $t = -3.96$; $p < .001$) and positively predicted behavioural

engagement ($\beta = .08$; $t = 2.15$; $p < .05$). Thus, in the current sample, being a girl was associated with a slight tendency of decrease in agency, and with an increase in the behavioural engagement. However, the unique contribution of sex was equal to 2.2 % for agency and negligible (.6 %) for behavioural engagement. For affective, cognitive and global school engagement, sex had no significant contribution. The level of academic aspirations was a significant predictor for all dimensions of school engagement, as well as for engagement total score. The level of academic aspirations accounted for 2.2 % of the variance in agency, 3.4 % of the variance in affective engagement, 1.3 % of the variance in cognitive engagement, 3.3 % of the variance in behavioral engagement, and 5.5 % of the variance in global school engagement.

Complementary analyzes showed that boys and girls recorded similar results in the affective dimension and the full scale of engagement. The subscale analysis reveals, however, significance at the agency level, in favour of boys, and at the cognitive and behavioural engagement this time in favour of girls.

5. Conclusions

The results of the current study suggest that those students who have greater intentions to continue their schooling tend to be more engaged in school, regardless of sex. These findings are consistent with those reported in literature. Thus, a consistent body of research suggests that students' educational aspirations influence their school motivation, academic achievement, academic self-concept, perceived school ability and learning goal orientation (Creed, Tilbury, Buys, & Crawford, 2011; Gutman & Schoon, 2012; Rothon et al., 2011).

Considering the lack of studies on these concepts, results are framed within the context of social-cognitive perspective of adolescence development, emphasizing the importance of activating and maintaining academic aspirations among secondary school students. Thus, the instructional and formative activities which are promoted and carried out in schools, as well as the cognitive (e.g., promoting performance self-improvement and continuous effort for learning, encouraging competition and high standards), emotional and social school climate (e.g., the quality of the student-teacher or student-peer relationship, teacher and peer informational and social support, consistency in school rules) provide children and adolescents with other opportunities for growth and development (Baker, Dilly, Aupperlee, & Patil,

2003; Roeser, Eccles, & Sameroff, 2000; Way, Reddy, & Rhodes, 2007). Therefore, within the context of a highly competitive knowledge-based society, educators and policy-makers have to increase their efforts, in order to raise academic engagement, aspirations and achievement among all age groups of students. Further researches on the students' perceptions about engaging in school are also suggested.

Note

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